FLH Standard Criteria Files

Section 8 –

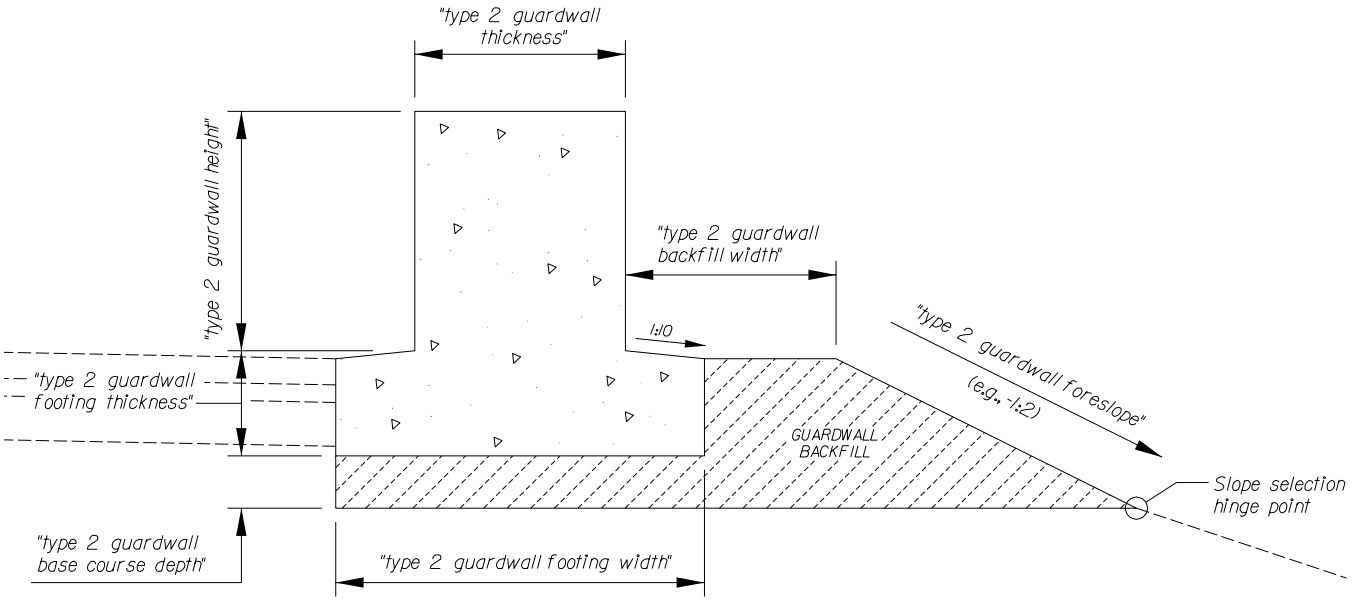
Guardwall Criteria Files

Guardwall Criteria Files

Criteria File	Elements Drawn by Criteria File
c_gwall2s.x08	FLH metric standard precast concrete guardwall (618M) and stone masonry guardwall (620M). Draws guardwall, guardwall footing, backfill and foreslope behind wall. Uses station ranges specified in exceptions data file to locate guardwall.
c_gwall3d.x08	Draws guardwall, guardwall footing, backfill and foreslope behind wall. Uses lines drawn in plan view dgn file to locate guardwall. Closes off base course layers with vertical lines at inside face wall if necessary.
c_gwall3s.x08	Draws guardwall, guardwall footing, backfill and foreslope behind wall. Uses station ranges specified in exceptions data file to locate guardwall. Closes off base course layers with vertical lines at inside face wall if necessary.

c_gwall2s.x08

FLH metric standard precast concrete guardwall (M618) and FLH metric standard stone masonry guardwall (M620).
Draws simple guardwall with footing plus backfill and foreslope behind guardwall.
Uses station ranges specified in the exceptions data file to locate guardwall.



define variables that must be assigned values in the input data file:

"type 2 guardwall backfill width"
"type 2 guardwall base course depth"
"type 2 guardwall footing thickness"
"type 2 guardwall footing width"
"type 2 guardwall foreslope" (e.g., -1:2)
"type 2 guardwall height"
"type 2 guardwall thickness"

define_dgn variables that must be assigned values in the input data file:

None

Variables that must be defined in exceptions data file:

_d_use_type2_guardwall_lt (set = 1 to toggle on guardwall)
_d_use_type2_guardwall_rt

Notes for c_gwall2s.x08:

1. This criteria was written to match the FLH metric standard precast concrete guardwall (M618) and FLH metric standard stone masonry guardwall (M620) dimensions. Default values for all the variables have been set in the criteria file to match the dimensions on the standard drawings. If the default values shown below are acceptable, then they don't have to be defined in the input file.

   "type 2 guardwall backfill width" = 0.600

"type 2 guardwall base course depth" = 0.150
"type 2 guardwall footing thickness" = 0.300
"type 2 guardwall footing width" = 1.050
"type 2 guardwall foreslope" = -1:2
"type 2 guardwall height" = 0.685
"type 2 guardwall thickness" = 0.600

2. Combines the functionality of a simple guardwall criteria with the functionality of the foreslope criteria. This criteria is written so that it overrides the foreslope used for the typical section (e.g., fh_fs5.x08)

3. Station ranges for the guardwall are set in the exceptions data file using the _d_use_type2_guardwall_lt and _d_use_type2_guardwall_rt variable and the following syntax:

```
if sta >= 1+000 r 1 and sta <= 2+000 r 1 then
    {
    _d_use_type2_guardwall_lt = 1
    }
```

4. This criteria (c_gwall2s.x08) and c_gwall2d.x08 draw basically the same elements. The only differences between the two criteria files are as follows:
   - c_gwall2d.x08 uses lines drawn in a plan view dgn file to specify the station ranges for guardwall;
     c_gwall2s.x08 uses station ranges explicitly specified in the exceptions data file
   - c_gwall2d.x08 widens the pavement structural section as necessary to locate the inside face of the guardwall at the offset from centerline represented by the lines drawn in plan view dgn file;
     c_gwall2s.x08 will never widen the pavement structural section

5. Must be included immediately before the foreslope criteria (fh_fs[1-5].x08) in the input file.

6. All pavement structure undercut layers are terminated at the inside face of the guardwall. If necessary they are closed off with vertical lines.

7. This criteria has no built-in provision for widening the pavement structural section -- it places the inside toe of the guardwall footing at whatever offset from centerline where the preceding criteria left off. Criteria file c_gwall2d.x08 will do widening in addition to what this criteria file does.

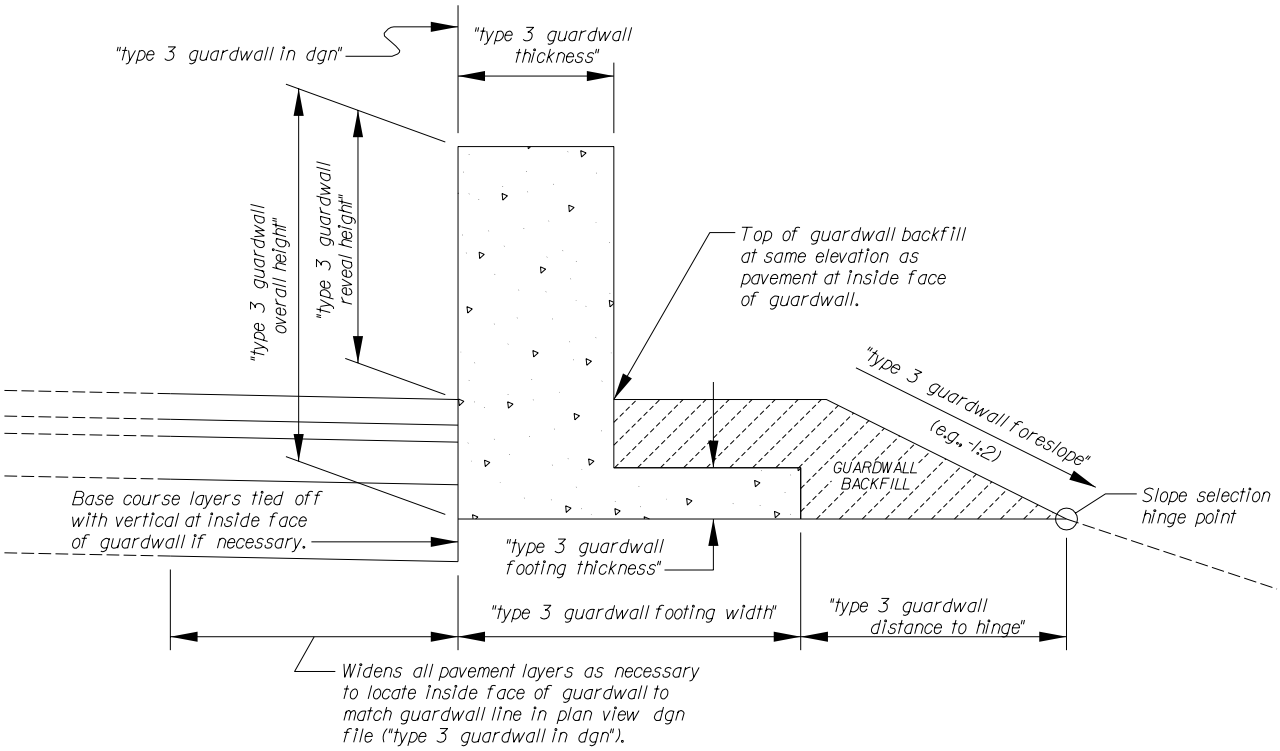
8. Level/symbology of cross-section elements drawn by this criteria is set up so that a separate quantity for guardwall backfill can be calculated in the earthwork procedure. (Proposed undercut, soil type = guardwall_backfill, lv=17, co=18)

9. Slope stake report will work correctly with the elements drawn by this criteria if you include lv=17 co=18 in the finish grade level/symbology. This is due to the "always take the lowest level" rule written into the slope stakes search routine.

10. fh_ss3.x08 is "included" in this criteria, and fh_fs[1-5].x08 is toggled off using the _d_stop_at_approach_road variable.

c_gwall3d.x08

Draws simple guardwall with footing plus backfill and foreslope behind guardwall.
Uses lines drawn in plan view dgn file to locate guardwall. Widens pavement structural section as necessary to locate inside face of guardwall at offset from centerline of line drawn in plan view.



define variables that must be assigned values in the input data file:

"type 3 guardwall distance to hinge"
"type 3 guardwall footing thickness"
"type 3 guardwall footing width"
"type 3 guardwall foreslope" (e.g., -1:2)
"type 3 guardwall overall height"
"type 3 guardwall reveal height"
"type 3 guardwall thickness"

define_dgn variables that must be assigned values in the input data file:

"type 3 guardwall in dgn"

Variables that must be defined in exceptions data file:

None

Notes for c_gwall3d.x08:

1. This criteria was originally written to match a standard detail for the Chalone Creek project. Default values for all the variables have been set in the criteria file to match the original detail. If the default values shown below are acceptable, then they don't have to be defined in the input file.

"type 3 guardwall distance to hinge" = 0.600
"type 3 guardwall footing thickness" = 0.150
"type 3 guardwall footing width" = 1.000
"type 3 guardwall foreslope" = -1:1.5
"type 3 guardwall overall height" = 1.090
"type 3 guardwall reveal height" = 0.740
"type 3 guardwall thickness" = 0.455

2. Combines the functionality of a simple guardwall criteria with the functionality a widening criteria and a foreslope criteria. This criteria is written so that it overrides the foreslope used for the typical section (e.g., fh_fs5.x08)

3. Station ranges for the guardwall are set by drawing lines in a plan view dgn file. These lines are also used to locate the offset of the inside face of the guardwall from centerline; the pavement structural section is widened as necessary to locate the guardwall at this offset.

4. This criteria (c_gwall3d.x08) and c_gwall3s.x08 draw basically the same elements. The only differences between the two criteria files are as follows:
   - c_gwall3d.x08 uses lines drawn in a plan view dgn file to specify the station ranges for guardwall;
     c_gwall3s.x08 uses station ranges explicitly specified in the exceptions data file
   - c_gwall3d.x08 widens the pavement structural section as necessary to locate the inside face of the guardwall at the offset from centerline represented by the lines drawn in plan view dgn file;
     c_gwall3s.x08 will never widen the pavement structural section

5. Must be included immediately before the foreslope criteria (fh_fs[1-5].x08) in the input file.

6. Pavement undercut layers that are lower than the guardwall footing are tied off with vertical lines at the inside face of the guardwall, as shown above.

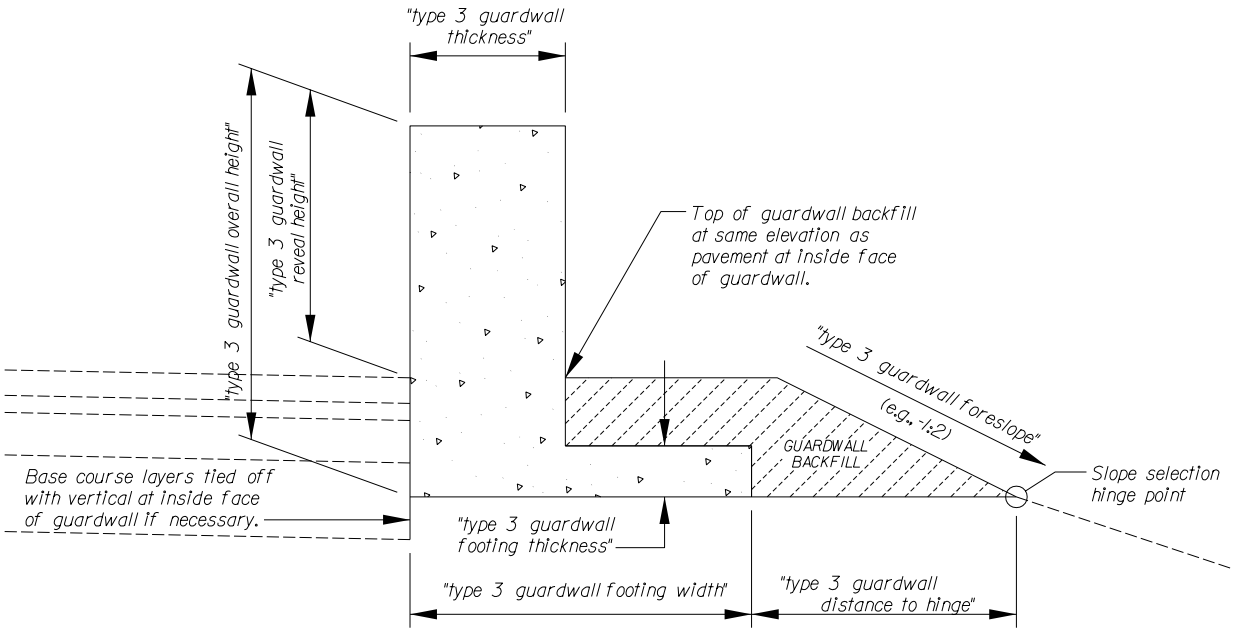
7. Level/symbology of cross-section elements drawn by this criteria is set up so that a separate quantity for guardwall backfill can be calculated in the earthwork procedure. (Proposed undercut, soil type = guardwall_backfill, lv=17, co=18)

8. Slope stake report will work correctly with the elements drawn by this criteria if you include lv=17 co=18 in the finish grade level/symbology. This is due to the "always take the lowest level" rule written into the slope stakes search routine.

9. fh_ss3.x08 is "included" in this criteria, and fh_fs[1-5].x08 is toggled off using the _d_stop_at_approach_road variable.

c_gwall3s.x08

Draws simple guardwall with footing plus backfill and foreslope behind guardwall.
Uses station ranges specified in the exceptions data file to locate guardwall.



define variables that must be assigned values in the input data file:

"type 3 guardwall distance to hinge"
"type 3 guardwall footing thickness"
"type 3 guardwall footing width"
"type 3 guardwall foreslope" (e.g., -1:2)
"type 3 guardwall overall height"
"type 3 guardwall reveal height"
"type 3 guardwall thickness"

define_dgn variables that must be assigned values in the input data file:

None

Variables that must be defined in exceptions data file:

_d_use_type3_guardwall_lt (set = 1 to toggle on guardwall)
_d_use_type3_guardwall_rt

Notes for c_gwall3s.x08:

1. This criteria was originally written to match a standard detail for the Chalone Creek project. Default values for all the variables have been set in the criteria file to match the original detail. If the default values shown below are acceptable, then they don't have to be defined in the input file.

   "type 3 guardwall distance to hinge" = 0.600
   "type 3 guardwall footing thickness" = 0.150

"type 3 guardwall footing width" = 1.000
"type 3 guardwall foreslope" = -1:1.5
"type 3 guardwall overall height" = 1.090
"type 3 guardwall reveal height" = 0.740
"type 3 guardwall thickness" = 0.455

2. Combines the functionality of a simple guardwall criteria with the functionality of the foreslope criteria. This criteria is written so that it overrides the foreslope used for the typical section (e.g., fh_fs5.x08)

3. Station ranges for the guardwall are set in the exceptions data file using the _d_use_type3_guardwall_lt and _d_use_type3_guardwall_rt variable and the following syntax:

```
if sta >= 1+000 r 1 and sta <= 2+000 r 1 then
    {
    _d_use_type3_guardwall_lt = 1
    }
```

4. This criteria (c_gwall3s.x08) and c_gwall3d.x08 draw basically the same elements. The only differences between the two criteria files are as follows:
   - c_gwall3d.x08 uses lines drawn in a plan view dgn file to specify the station ranges for guardwall;
     c_gwall3s.x08 uses station ranges explicitly specified in the exceptions data file
   - c_gwall3d.x08 widens the pavement structural section as necessary to locate the inside face of the guardwall at the offset from centerline represented by the lines drawn in plan view dgn file;
     c_gwall3s.x08 will never widen the pavement structural section

5. Must be included immediately before the foreslope criteria (fh_fs[1-5].x08) in the input file.

6. Pavement undercut layers that are lower than the guardwall footing are tied off with vertical lines at the inside face of the guardwall, as shown above.

7. This criteria has no built-in provision for widening the pavement structural section -- it places the inside face of the guardwall at the offset from centerline where the preceding criteria left off. Criteria file c_gwall3d.x08 will do widening in addition to what this criteria file does.

8. Level/symbology of cross-section elements drawn by this criteria is set up so that a separate quantity for guardwall backfill can be calculated in the earthwork procedure. (Proposed undercut, soil type = guardwall_backfill, lv=17, co=18)

9. Slope stake report will work correctly with the elements drawn by this criteria if you include lv=17 co=18 in the finish grade level/symbology. This is due to the "always take the lowest level" rule written into the slope stakes search routine.

10. fh_ss3.x08 is "included" in this criteria, and fh_fs[1-5].x08 is toggled off using the_d_stop_at_approach_road variable.